

WHAT IS CLAIMED IS:

1. A decoding apparatus comprising:

table storage means for storing, in correspondence  
with M types of variable-length code tables, M tables

5 holding minimum code words or maximum code words of N  
classes of variable-length code words constructing a  
variable-length code table;

table selection means for selecting a table from M  
tables in said table storage means;

10 N comparison means for comparing input coded data  
with the minimum code words or maximum code words  
outputted from the table selected by said table  
selection means;

15 class discrimination means for obtaining a class  
number corresponding to an initial code word of the  
input coded data based on results of comparison by said  
N comparison means;

20 code length conversion means for converting the  
class number obtained by said class discrimination means  
into a code length; and

address generation means for generating an address  
to access a memory holding decoded data from said class  
number and said code length outputted from said code  
length conversion means.

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2. The decoding apparatus according to claim 1, wherein  
said table selection means selects the table based on at

least a coding method of the input coded data, a component number and data indicating a variable-length code table used upon coding.

5    3. The decoding apparatus according to claim 1, wherein said class discrimination means selects the results of comparison by said N comparison means based on a number of the table selected by said table selection means, and determines a minimum class number among class numbers

10    corresponding to said comparison means of the selected results of comparison, as the class number.

4. The decoding apparatus according to claim 1, wherein said code-length conversion means converts the class

15    number into the code length based on the class number obtained by said class discrimination means and a number of the table selected by said table selection means.

5. The decoding apparatus according to claim 1, wherein

20    the M tables include a RAM, a ROM or a table constructed with flip-flops.

6. The decoding apparatus according to claim 1, wherein

the class number N stored in each of the M tables is set  
25    to an arbitrary value.

7. The decoding apparatus according to claim 1, wherein

the maximum code words or minimum code words stored in the M tables correspond to the JPEG coding method and the MPEG coding method.

5 8. A decoding method for inputting and decoding variable-length coded data, comprising:

a table selection step of, in correspondence with M types of variable-length code tables, selecting one table corresponding to the variable-length coded data

10 from M tables holding minimum code words or maximum code words of classes of variable-length code words  
constructing a variable-length code table;

a comparison step of comparing input coded data with the minimum code words or maximum code words

15 outputted from the table selected at said table selection step by using N comparators;

a class discrimination step of obtaining a class number corresponding to an initial code word of the input coded data based on results of comparison by the N comparators;

20 a code length conversion step of converting the class number into a code length; and

a step of accessing a memory holding decoded data, from the class number and the code length obtained at  
25 said code length conversion step, and obtaining decoded data.

9. The decoding method according to claim 8, wherein at said class discrimination step, the results of comparison by the N comparators is selected based on a number of the table selected at said table selection 5 step, and a minimum class number among class numbers corresponding to comparators of the selected results of comparison is determined as the class number.

10. The decoding method according to claim 8, wherein at 10 said code-length conversion step, the class number is converted into the code length based on the class number obtained at said class discrimination step and the number of the table selected at said table selection step.

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11. The decoding method according to claim 8, wherein at 20 said table selection step, the table is selected based on at least a coding method of the input coded data, a component number and data indicating a variable-length code table used upon coding.

12. The decoding method according to claim 8, wherein the M tables include a RAM, a ROM or a table constructed with flip-flops.

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13. The decoding method according to claim 8, wherein the class number N stored in each of the M tables is set

to an arbitrary vale.

14. The decoding method according to claim 8, wherein  
the maximum code words or minimum code words stored in  
5 the M tables correspond to the JPEG coding method and  
the MPEG coding method.

15. A computer-readable storage medium holding a program  
for executing a decoding method for inputting and  
10 decoding variable-length coded data, having:  
    a table selection process module for, in  
    correspondence with M types of variable-length code  
    tables, selecting one table corresponding to the  
    variable-length coded data from M tables holding minimum  
15 code words or maximum code words of classes of variable-  
    length code words constructing a variable-length code  
    table;  
    a comparison process module for comparing input  
    coded data with the minimum code words or maximum code  
20 words outputted from the table selected at said table  
    selection process module;  
    a class discrimination module for obtaining a  
    class number corresponding to an initial code word of  
    the input coded data based on results of comparison at  
25 said comparison module;  
    a code length conversion module for converting the  
    class number into a code length; and

a module for accessing a memory holding decoded data, from the class number and the code length obtained at said code length conversion module, and obtaining decoded data.

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16. The storage medium according to claim 15, wherein at said table selection module, the table is selected based on at least a coding method of the input code data, a component number and data indicating a variable-length

10 code table used upon coding.

17. The storage medium according to claim 15, wherein the M tables include a RAM, a ROM or a table constructed with flip-flops.

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18. The storage medium according to claim 15, wherein the class number N stored in said respective M tables is set to an arbitrary vale for the respective tables.

20 19. The storage medium according to claim 15, wherein the maximum code words or minimum code words stored in said M tables correspond to the JPEG coding method and the MPEG coding method.

25 20. Program software for executing a decoding method for inputting and decoding variable-length coded data, by a computer, having:

- a table selection process for, in correspondence with M types of variable-length code tables, selecting one table corresponding to the variable-length coded data from M tables holding minimum code words or maximum 5 code words of classes of variable-length code words constructing a variable-length code table;
- a comparison process for comparing input coded data with the minimum code words or maximum code words outputted from the table selected at said table
- 10 selection process;
- a process for obtaining a class number corresponding to an initial code word of the input coded data based on results of comparison at said comparison process;
- 15 a code length conversion process for converting the class number into a code length; and
- a process for accessing a memory holding decoded data, from the class number and the code length obtained at the code length conversion module, and obtaining 20 decoded data.